

Information on Co<sup>60</sup> now stored in Corrosion Lab

Supplied by C+C Chem Oak Ridge

5 mc in 5 pieces

requested May 8, 1954

capsules furnished by C+C Chemicals

Soviet Irradiation

Ordered by H R. Spedden

Ordered for development of a special liquid-level indicator

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Information from Oak Ridge

At 9:00 AM 6-17-53

Material measured 52 Mr/hr at 39 inches, unshielded

unit price \$1.2 + \$1.0 handling charge

APPLICATION FOR RADIOISOTOPE PROCUREMENT

PART TWO  
PAGE 2 OF 2 PAGES

HEALTH PROTECTION AND MONITORING

28 DESCRIBE PROCEDURES PROPOSED FOR MONITORING AND HEALTH PROTECTION (Particularly those special features pertinent to your work)

Adequate monitoring instruments and remote handling tongs are available for the operations anticipated. Adequate hoods are available, and a dog box will be used if the need arises

29 NAME AND TITLE OF PERSON TO WHOM RESPONSIBILITY FOR HEALTH PROTECTION WILL BE DELEGATED

Mrs. H Ruth Spedden, Research Engineer

30 EXPERIENCE OF ABOVE PERSON (Item 29)

ORINS Radioisotope Technique Course  
Four years use of tongs under AEC Contract AT(30-1)-956 at M.I.T.  
Until July 1952 held post of Assistant Team Chief, AEC Monitoring Team no 5 at M.I.T. Cambridge Mass

MISCELLANEOUS EQUIPMENT FOR HEALTH PROTECTION

31 LIST AND DESCRIBE BRIEFLY (Radiation, shielding, respirators, ventilated hoods, remote handling equipment, etc)

Two large iron safety storage shield  
Two small lead storage shield  
Iron bricks  
Laboratory hoods designed ~~and used for~~ for use with radiochemical materials  
Remote handling tongs  
Remote pipet

# APPLICATION FOR RADIOISOTOPE PROCUREMENT

PART TWO  
PAGE 1 OF 2 PAGES

## STATEMENT OF FACILITIES FOR RADIATION MEASUREMENT AND HEALTH SAFETY MONITORING

Radioisotopes may be distributed only to applicants equipped to observe safety standards for the protection of health. This part of form AEC-313 must be completed in triplicate and left attached to your first application. It may be detached from subsequent applications provided, there is no change in availability of the items listed.

18 NAME AND ADDRESS OF APPLICANT (Institution, Firm, etc.) Metals Research Laboratory, Electro Metallurgical Co 4625 Royal Ave, Niagara Falls, NY	19 DATE November, 1954
20 NAME AND TITLE OF USER (Same as item 8 above) Dr. Milton Stern, Senior Research Assistant	21 DEPARTMENT

## LIST OF RADIATION INSTRUMENTS AVAILABLE

22 KIND OF INSTRUMENT	23 MAKE AND SERIAL NO	24 SENSITIVITY RANGE (Include window thickness in mg/cm <sup>2</sup> )	25 USE (Health monitoring or measurement)
Scaler	Nuclear Model 192X	2 mcg/cm <sup>2</sup>	measurement
Scaler	Atomlab A-22	2 mcg/cm <sup>2</sup>	measurement
Scintillation Counter	Nuclear Model DS-1	Sodium iodide crystal	measurement & monitoring
"	" Model DS-3	"	"
Rate Meter	Nuclear Model 1615B	Scintillation and Geiger 2 mcg/cm <sup>2</sup>	measurement & monitoring
Self Dosimeter	Landwehr Model L-28	0-200 mR	Dose Determination
Dose Dosimeter	Landwehr Model L-41	0-5 roentgen	"
Radiation Monitor	Nuclear Research Model RM-1A	14 mcg/cm <sup>2</sup>	monitoring
Dosimetry meters	Barkely Model 2250	0-02, 0-2, 0-20 mR/hr 30 mcg/cm <sup>2</sup>	monitoring
Laboratory Monitor	Troxelab 303B	3 mcg/cm <sup>2</sup>	monitoring
Reference: Approval No 19265/6-30-54 Date 6/17/53			

26 HOW ARE INSTRUMENTS CALIBRATED?  
Use of known reference sources

27 HOW FREQUENTLY ARE INSTRUMENTS CALIBRATED?  
Quarterly

6 cups 669 - 3-2-50

Form AEC-313 (Rev. March 1951) B B No 38-R0271		<b>APPLICATION FOR RADIOISOTOPE PROCUREMENT</b> FOLLOW ATTACHED INSTRUCTIONS		LEAVE BLANK	
TO U S ATOMIC ENERGY COMMISSION POST OFFICE BOX E OAK RIDGE TENNESSEE ATTENTION ISOTOPES DIVISION					
1 NAME AND ADDRESS OF APPLICANT (Institution, Firm, etc. Follow Instruction No. 2A) ✓ ElectroMetallurgical Co., Metals Research Laboratories 4625 Royal Avenue, Niagara Falls, New York			2 DEPARTMENT TO USE ISOTOPE (Follow Instruction No. 2B) Metals Research Laboratories		
3 NAME AND ADDRESS OF INDIVIDUAL USER (Follow Instruction No. 3A) Dr Milton Stern, Metals Research Laboratories, Room 212, Niagara Falls, New York					
4 EXPERIENCE OF THE USER (Follow Instruction No. 3B) Class and Laboratory Course at Massachusetts Institute of Technology Occasional use of tracers, subsequently, in research work at M.I.T					
RADIOISOTOPE REQUESTED (Follow Instruction No. 4)					
5 ISOTOPE (Element and mass number) Nickel 63		6 CHEMICAL FORM <del>Nickel Metal</del> Nickel in HCl solution		7 QUANTITY (Millicuries or irradiated units) 5 millicuries	
8 OTHER SPECIFICATIONS <del>For nickel to highest radiochemical purity available</del>					
9 ITEM NO. (If any) IN U S AEC CATALOG N1-63-P <del>Source Transmutation</del>		10 NAME AND ADDRESS OF SUPPLIER IF KNOWN Oak Ridge National Laboratory			
STATEMENT OF USE (Follow Instruction No. 5)					
11 STATE PROPOSED USE OF RADIOMATERIAL AND GENERAL PLAN OF INVESTIGATION Radiomaterial will be incorporated into special heats of laboratory alloys to study the effect of <sup>nickel</sup> <del>nickel</del> distribution on corrosion characteristics of these alloys. <del>High</del> resolution autoradiography will be used  Reference: Approval No. 19265/6-30-54 Date 6/17/53					
12 WILL THE RADIOISOTOPE BE USED IN HUMAN BEINGS? (Follow Instruction No. 6A)				CIRCLE YOUR ANSWER YES <input type="radio"/> NO <input checked="" type="radio"/>	
13 A HUMAN DOSAGE (In millicuries per patient)		B NUMBER OF DOSES (Per patient)		C NUMBER AND TYPE OF PATIENTS	
				D COMPOUND ADMINISTERED	
				E SAMPLE TO BE TAKEN FOR MEASUREMENT	
14 APPROVAL OF THE USER'S LOCAL ISOTOPE COMMITTEE (Follow Instruction No. 6B) THE LOCAL ISOTOPE COMMITTEE APPROVES THE HUMAN USE AS INDICATED IN ITEMS 11-13"  (Signature of Chairman Local Isotope Committee)					
15 WILL THE RADIOISOTOPE BE USED IN LOWER ANIMALS?				CIRCLE YOUR ANSWER YES <input type="radio"/> NO <input checked="" type="radio"/>	
16 IS A COMPLETED FORM AEC-313A A PART OF THIS APPLICATION? (Follow Instruction No. 7)				CIRCLE YOUR ANSWER YES <input checked="" type="radio"/> NO <input type="radio"/>	
17 MAY THE ISOTOPES DIVISION RELEASE GENERAL INFORMATION REGARDING MATERIAL USED AND PURPOSE? (If your answer is "No," please state your reason here)				CIRCLE YOUR ANSWER YES <input checked="" type="radio"/> NO <input type="radio"/>	
READ THE TERMS AND CONDITIONS ON THE BACK OF THIS SHEET AND SIGN THE CERTIFICATE THAT FOLLOWS—AN UNSIGNED APPLICATION CANNOT BE CONSIDERED					

## TERMS AND CONDITIONS

In consideration of the issuance of an authorization from the Commission to enable the applicant to procure or obtain the radioisotopes or irradiation service requested hereon, the applicant agrees that

- 1 Radioisotopes purchased or acquired from the Commission or a distributor are shipped from the laboratory, plant, facility, or Commission office handling the transaction, at prices and service fees as fixed by the Commission, and title to said materials, if same are not already owned by the applicant, shall pass to the applicant when the materials are delivered to the carrier. When shipment of the materials requires the use of returnable Government owned containers, title to such containers shall remain in the Government and a deposit to insure return of the containers will be made if required. The applicant will keep the containers in good condition, will not use them for any materials other than the materials shipped therein, and will return them to point of shipment, transportation prepaid, within 21 days of date of shipment.
- 2 Neither the Government, the Commission, nor any distributor will be responsible for
  - (a) any damage to, destruction to, loss of, or changes in physical or chemical properties of materials of any kind accepted for a service irradiation, either as a result of, or in the process of, the irradiation or while said materials are in the possession of the Commission or a distributor,
  - (b) any injury to persons or other living things or for damage to property caused by handling, shipment, use (including use based on any statement of quality or quantity), storage, transfer, disposal, or reshipment of, or other act or failure to act in connection with any materials purchased or acquired from the Commission or a distributor, or procured from any source upon the Commission's approval, it being expressly agreed that, as between the Commission, the supplying distributor, and the applicant, the applicant assumes complete responsibility and liability for any such injury or damage occurring. Provided, however, that if such injury or damage is caused solely by the negligent packing of the Commission or a distributor this assumption of liability shall not apply.
- 3 Neither the Government, the Commission, nor any distributor makes any warranty or other representation that (a) materials accepted for a service irradiation will not be destroyed, damaged, or otherwise altered in physical or chemical properties in the process of irradiation, and (b) radioisotopes (1) will not result in injury or damage when used for the purposes approved by the Commission, (2) will accomplish the results for which they are requested and approved by the Commission, (3) are safe for any other use or (4) are of a particular quality or quantity. When procuring radioisotopes from the Commission or a distributor the applicant agrees to report promptly whether the amount received represents the amount paid for, in order that discrepancies may be adjusted.
- 4 Neither the Government, the Commission, nor any distributor shall be responsible, irrespective of cause, for the failure of the Commission, and distributor, or other transferor to (a) deliver radioisotopes at specified times, or (b) deliver radioisotopes of specified quality.
- 5 When materials supplied for a service irradiation are
  - (a) from an applicant not authorized to possess or use radioisotopes, the Commission or the distributor shall have the right to retain possession and control of the irradiated materials throughout the period of measurable activity of such materials, and unless otherwise stated in the request for service irradiation, may dispose of such materials in accordance with

the usual Commission or distributor disposal procedures for radioactive materials,

- (b) to be tested or analyzed and retained by the Commission or a distributor, such materials may, unless otherwise stated in the request for service irradiation, be disposed of in accordance with the usual Commission or distributor disposal procedures for radioactive materials.

It is expressly agreed that if any irradiated materials covered by (a) or (b) above must be retained by the Commission or a distributor in order to protect health and minimize other hazards to life or property, the applicant will pay all storage and maintenance charges connected therewith, and if any irradiated materials belonging to the applicant are disposed of under the provisions of this paragraph, the applicant shall have no claim for the value or replacement of said materials.

- 6 The Commission shall have the right to publish and use any information or knowledge acquired as a result of the irradiation of materials furnished by the applicant, including results of tests and analyses made for the applicant in connection with any such irradiated materials.
- 7 The right to revoke or cancel, with or without cause, arrangements for or agreements for the purchase or acquisition of any radioisotopes from a distributor, including arrangements or agreements for service irradiations, is reserved to the Commission. In the event, the Commission revokes or cancels any arrangement or agreement for a service irradiation, the Government, the Commission, and the distributor shall be discharged of all obligations thereunder by return to the applicant of an amount of nonirradiated material of like kind, quality, and quantity as the material accepted for irradiation.
- 8 Title to and possession of all radioisotopes purchased or acquired from the Commission or from a distributor, or from any source on the authorization or approval of the Commission, remain subject to the Commission's statutory right to recall. Title to any materials recalled by the Commission shall vest in the Commission with the exercise of this right, and the Commission may enter and take possession of said materials any time after notice is given that the materials are being recalled. Provided, that if requested, the applicant, at his expense will make shipment of the recalled materials to a destination designated by the Commission.
- 9 The applicant agrees to indemnify the Government, the Commission, their officers, agents, contractors, distributors, servants, and employees against liability, including costs and expenses incurred, for infringement of any Letters Patent occurring in the course of any service irradiation, test, or analysis performed for the applicant by the Commission or its distributors, or occurring in the utilization by the applicant of any radioisotopes or irradiated materials.
- 10 The applicant will furnish to the Isotopes Division six copies of each article published on the results of his investigations using radioisotopes or irradiation services, or will upon request furnish to the Isotopes Division a report of the results of his investigations.
- 11 Any radioisotopes received as a consequence of this application will be dealt with in accordance with all instructions, recommendations, or standards issued by the Commission for the safe use, handling, or disposal of radioactive materials.
- 12 All purchase orders and agreements for procuring radioisotopes are subject to the terms and conditions hereof and any contrary conditions of sale or transfer contained in such purchase orders or agreements will not apply.

## CERTIFICATE

The applicant and any official executing this application in behalf of the applicant certify that the information stated herein is true and correct, that this application is made under and in conformity with Code of Federal Regulations, Title 10, Atomic Energy, Part 30, Radioisotope Distribution, and agree that this application and any materials procured pursuant thereto are subject to the terms and conditions on this page.

*Dec 1, 1954*  
(Date)

*Burton H. Field*  
(Signature of Applicant or Certifying Official)  
*Manager*  
(Title)

## WARNING

18 U.S.C., Sec 1001, act of June 25, 1948, 62 Stat 749, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

UCC

TO (NAME)

Melster

DATE

11/24/54

LOCATION

FROM

HA Spedden

SUBJECT

Co 60

LOCATION

request!

The attached may answer the demands made in your memo of 11/23/54.

Return these (AEC-303 & ORNL shipping memo) to me as soon as you have copied the required information.

REPLY IN SPACE BELOW DETACH AND RETURN TRIPLICATE RETAIN THIS COPY.

Thanks much. I shall label material in storage container and keep track of it until you have need for its use. If you prefer storing the material elsewhere, let me know.

I shall use your "Application for Radioisotope Procurement" as a model for those which I plan to submit. The applications will, of course, come across your desk

W. Stn

ORIGINAL

UCCNHT0003498

Scaler Atoulat A-72

RCL tube  
2.0 mg/cm<sup>2</sup>

measurement

Lab Monitor Tracerlab SU3B

FGC-1  
2.8 mg/cm<sup>2</sup>

monitoring & measurement

Portable Monitor Nuclear Inst  
2610A

3.5 mg/cm<sup>2</sup>

monitoring

To: H R. Spedden

From: M. Stern

Date: November 23, 1954

Please supply following information

- ① Supplier of Co<sup>60</sup> now being stored in Corrosion Lab.  
C & C Chem Oak Ridge
- ② Activity of material on purchase date  
varying ~~reported~~
- ③ Date purchased
- ④ Purchased by *MS*
- ⑤ Purchased for



Scanned

Technology Department  
P. O. Box 580, Niagara Falls, N.Y.  
March 11, 1960

MEMORANDUM

TO: Mr. C. H. Offenhauer  
COPIES TO: Messrs. J. C. Douglas  
V. A. Jones  
J. L. McCormick  
P. McVicker  
FROM: H. Wissenberg  
SUBJECT: Nuclear and Radioactive Materials

Radioisotopes which had been kept in Building 94 and in the dead storage building have been removed in accordance with instructions from the A.E.C., since our license for handling by-product isotope material expired.

All usable quantities of  $N^{163}$ ,  $H^3$ ,  $C^{14}$ , and  $Co^{60}$  were delivered to Dr. Birdsell of the Linde Tonawanda Laboratories on February 24, 1960. The Linde Tonawanda Laboratories are authorized to handle isotopes under a broad license from the A.E.C.

A drum containing waste materials which include very small quantities of radioisotopes will be disposed of by Mr. V. A. Jones by burying, in accordance with federal regulations.

The following interested persons have been notified that radioactive materials are no longer kept in either Building 94 or the dead storage building:

Mr. James R. Mason; Atomic Energy Commission  
Mr. Buterbaugh; Factory Mutual Insurance Company  
Mr. Hurst; Niagara Falls Fire Department

H. Wissenberg

HM/med

Birdsell - ext 8895  
Robert Dwyer - ext 627